

SEQUENCE LISTING

<110> Briggs, Robert E.

Tatum, Fred M.



<120> Construction of Pasteurella Haemolytica Vaccines

<130> 295.77957

<140> 09/210,747

<141> 1998-12-15

<150> 08/643,299

<151> 1996-05-08

<150> 08/162,392

<151> 1993-12-06

<160> 6

<170> PatentIn Ver. 2.0

<210> 1

<211> 1556

<212> DNA

<213> Pasteurella cf. haemolytica

<400> 1

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aaaatggaaa aactaacttt aaccccgatt tcccgagtag aaggcgagat caatttacct 240
ggttctaaaa gctgtcttaa ccgagcctta ttattagccg ccttagccac cggtacgact 300
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ggagctttta aggttcaaaa cggcttatca ctgtttctcg gcaatgcagg cacggcaatg 480
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ggggcagagg tacagtattt agaaaatgaa ggctatccac cgttggcaat tagcaatagc 660
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 ggtaattatt tgggtggagg agatgcctct tctgcctctt atttcttagc ctccgggtgcg 960
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 gagcaatccc cgctaaaagg cgtagatatg gatatgaatc atattcctga tgcggcaatg 1140
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<211> 434

<212> PRT

<213> Pasteurella cf. haemolytica

<400> 2

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1

5

10

15

Asn Leu Pro Gly Ser Lys Ser Leu Ser Asn Arg Ala Leu Leu Leu Ala

20

25

30

Ala Leu Ala Thr Gly Thr Thr Gln Val Thr Asn Leu Leu Asp Ser Asp

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40

45

Asp Ile Arg His Met Leu Asn Ala Leu Lys Ala Leu Gly Val Lys Tyr

50

55

60

Glu Leu Ser Asp Asp Lys Thr Val Cys Val Leu Glu Gly Ile Gly Gly

65

70

75

80

Ala Phe Lys Val Gln Asn Gly Leu Ser Leu Phe Leu Gly Asn Ala Gly

85

90

95

Thr Ala Met Arg Pro Leu Ala Ala Ala Leu Cys Leu Lys Gly Glu Glu

B'
cont.

100 105 110
Lys Ser Gln Ile Ile Leu Thr Gly Glu Pro Arg Met Lys Glu Arg Pro
115 120 125
Ile Lys His Leu Val Asp Ala Leu Arg Gln Val Gly Ala Glu Val Gln
130 135 140
Tyr Leu Glu Asn Glu Gly Tyr Pro Pro Leu Ala Ile Ser Asn Ser Val
145 150 155 160
Cys Arg Gly Gly Lys Val Gln Ile Asp Gly Ser Ile Ser Ser Gln Phe
165 170 175
Leu Thr Ala Leu Leu Met Ser Ala Pro Leu Ala Glu Gly Asp Met Glu
180 185 190
Ile Glu Ile Ile Gly Asp Leu Val Ser Lys Pro Tyr Ile Asp Ile Thr
195 200 205

8'
cont.

Leu Ser Met Met Asn Asp Phe Gly Ile Thr Val Glu Asn Arg Asp Tyr

210

215

220

Lys Thr Phe Leu Val Lys Gly Lys Gln Gly Tyr Val Ala Pro Gln Gly

225

230

235

240

Asn Tyr Leu Val Glu Gly Asp Ala Ser Ser Ala Ser Tyr Phe Leu Ala

245

250

255

Ser Gly Ala Ile Lys Ala Gly Lys Val Thr Gly Ile Gly Lys Lys Ser

260

265

270

Ile Gln Gly Asp Arg Leu Phe Ala Asp Val Leu Glu Lys Met Gly Ala

275

280

285

Lys Ile Thr Trp Gly Glu Asp Phe Ile Gln Ala Glu Gln Ser Pro Leu

290

295

300

Lys Gly Val Asp Met Asp Met Asn His Ile Pro Asp Ala Ala Met Thr

305

310

315

320

Ile Ala Thr Thr Ala Leu Phe Ala Glu Gly Glu Thr Val Ile Arg Asn

325

330

335

Ile Tyr Asn Trp Arg Val Lys Glu Thr Asp Arg Leu Thr Ala Met Ala

340

345

350

Thr Glu Leu Arg Lys Val Gly Ala Glu Val Glu Glu Gly Glu Glu Gly

355

360

365

Glu Asp Phe Ile Arg Ile Gln Pro Leu Ala Leu Glu Asn Phe Gln His

370

375

380

Ala Glu Ile Glu Thr Tyr Asn Asp His Arg Met Ala Met Cys Phe Ser

385

390

395

400

Leu Ile Ala Leu Ser Asn Thr Glu Val Thr Ile Leu Asp Pro Asn Cys

405

410

415

Thr Ala Lys Thr Phe Pro Thr Tyr Phe Arg Asp Leu Glu Lys Leu Ser

B'
cont.

420

425

430

Val Arg

<210> 3

<211> 14

<212> DNA

<213> Artificial Sequence

B' cont.
<220>

<223> Description of Artificial Sequence: Recognition

sequence of restriction enzymes *PhaI* and *SfaNI* in

the 5' to 3' orientation.

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14

<210> 4

<211> 14

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Recognition

site for restriction enzymes *PhaI* and *SfaNI* in the

3' to 5' orientation.

<400> 4

cgtagnnnnn nnnn

14

<210> 5

<211> 31

<212> DNA

<213> *Escherichia coli*

<400> 5

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31

<210> 6

<211> 25

<212> DNA

<213> Escherichia coli

<400> 6

aggctgcctg gctaataccgc gccag

25

B'
corel.